

Committee:	National Committee for Earth System Science
Period covered:	31 July 2013 – 31 December 2016
Chair:	Dr Tas van Ommen
Version and date:	EXCOM approved

Purpose / context	<ol style="list-style-type: none"> 1. To connect the Academy to science and scientists in Australia; 2. To link the Academy to Australian scientific societies and key Australian research institutions in order to work together to promote the development of the discipline; 3. To link Australian science in the disciplines to world science, in particular through the membership of appropriate international organisations; 4. To ensure that Australia has a voice and a role in the global development of the disciplines; 5. To provide strategic science policy advice, to the Academy, as input to Academy science policy statements, and (with the approval of the Executive Committee of Council) to the Australian Government and Australian organisations.
Description and objectives	<p><i>(Description, purpose and benefits of the National Committee)</i></p> <p>The National Committee for Earth System Science has a top level aim to foster the development of a coherent community of Earth Systems Science (ESS) research in Australia. It provides those general functions of the Academy National Committees in areas of science relevant to Earth System Science. This includes representation and facilitation of core disciplinary components such as atmospheric and ocean sciences, as well as the cross-disciplinary aspects of ESS. The core objectives of the NCESS derive from the NCESS Plan 2010, <i>To live within Earth's limits</i>. Other broad aims include communication and reporting of Earth system science, advocacy for the funding needs of the ESS community, championing the ESS agenda and promoting Australian connections to international ESS. The NCESS Plan envisages development of a broader cross-academy approach to ESS in Australia that meshes with the new <i>Future Earth</i> initiative of ICSU.</p>
Coverage	<p><i>(To be informed by the report of the Review Committee, with others as necessary)</i></p> <p>The science of the interconnected and integrated components of the earth system both human and physical. This includes the atmosphere, oceans, land and cryosphere and societal forcing and reaction to their dynamics through the disciplines of hydrology, meteorology, oceanography, biogeochemistry and climatology; weather, climate and ocean prediction; and societal dynamics as captured in economics and social science as required to study global change and the sustainability of the earth system;;the influence of changing climate on humans and ecosystems; the science of adaptation and mitigation of environmental and societal impacts and their implications for public education and policy development.</p>

<p>Linked international organisation</p>	<ul style="list-style-type: none"> • Scientific Committee on Oceanic Research (SCOR) • World Climate Research Program (WCRP) • Future Earth <ul style="list-style-type: none"> ○ International Geosphere-Biosphere Project (IGBP) ○ International Human Dimensions Programme on Global Environmental Change (IHDP), Diversitas <p><i>Note that at the end of 2014, the global environmental change research programs IGBP, IHDP and Diversitas will be phased out in favour of Future Earth.</i></p>
<p>Key connected organisations</p>	<p><i>(List international unions, Australian scientific societies, other national committees, etc)</i></p> <p>Links to other National Committees: Earth Sciences; Ecology, Evolution and Conservation; Agriculture, Fisheries and Food; Antarctic Research; Chemistry; Medicine and Public Health; Physics; Geography; Space and Radio Science; Mathematical Sciences; Data in Science.</p> <p>Australian Societies and Organisations: Australian Meteorological and Oceanographic Association (AMOS), Australian Marine Sciences Association (AMSA), Academy of the Social Sciences in Australia, Australian Academy of Technological Sciences and Engineering.</p> <p>Other International Organisations: , Global Climate Observing System (GCOS), Global Ocean Observing System (GOOS), and Global Terrestrial Observing System (GTOS), the IUGG International Associations of Cryospheric Sciences (IACS), Meteorology and Atmospheric Sciences (IAMAS), and the Physical Sciences of the Ocean (IAPSO).</p>
<p>Key outcomes</p>	<p><i>(Activities and projects. In addition, reference should be made to:</i></p> <ul style="list-style-type: none"> • <i>communication and interactions with various parties, with suggestions on how this can be done; and</i> • <i>obtaining resources to assist with outcomes and with international subscriptions.</i> <p><i>Please refer to the report of the Review Committee.)</i></p> <p>Outcomes and activities will be driven by the implementation strategies from the NCESS Plan <i>To live within Earth's limits: An Australian plan to develop a science of the whole Earth system</i> (2010) in conjunction with review recommendations and also international developments around <i>Future Earth</i>. The latter initiative potentially offers scope to adapt and progress elements of the NCESS Plan.</p> <ol style="list-style-type: none"> 1. Australian involvement in <i>Future Earth</i> initiatives will be supported through NCESS activities. This will be done through the regular biennial Earth System Outlook Conference series, potentially with additional meetings or events. Other initiatives include incorporation of Future Earth Science Committee officers as observers to NCESS meetings. 2. Cross committee links will be enhanced through mechanisms such as

	<p>cross-committee observers, committee-to-committee communications and chair-to-chair interactions.</p> <ol style="list-style-type: none"> 3. National links will be enhanced by developing new communications with Australian societies and organisations and through designated NCESS members linked to societies. This will also be used to drive strong links to disciplinary interests in areas such as atmospheric and ocean sciences. 4. Cross Academy links to be fostered through engagement in Future Earth and other initiatives. 5. Links to policy and government will be sustained and developed through continued strong engagement in NCESS activities.
Indicative budget	<p>\$324,900 received from Australian Climate Change Science Program for activities in 2013-2014, including:</p> <ol style="list-style-type: none"> 1. Payment of Subscriptions: <ol style="list-style-type: none"> a. International Geosphere-Biosphere Programme (IGBP) 2013 and 2014 (2 years) = \$65,900 b. World Climate Research Programme (WCRP) 2013 and 2014 (2 years) = \$33,000 c. Scientific Committee on Oceanic Research (SCOR) 2013 and 2014 (2 years) = \$13,000 d. Scientific Committee on Antarctic Research (SCAR) 2013 and 2014 (2 years at 50%) = \$21,000 2. Administration Costs = \$50,000 3. Meeting/Workshop/Outreach Expenses <ol style="list-style-type: none"> a. Australia = \$10,000 b. International = \$15,000 c. Workshops/conferences = \$90,000 d. Strategic plan promotion, distribution and implementation= \$7,000 e. Website development and promotion = \$20,000
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Approved by / date	